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ABSTRACT

Sustainable development has had many definitions; however, all definitions have a core meaning characterized by three elements: (1) consideration of environmental issues and objectives interdependently with economic issues and objectives; (2) a commitment to social equity and the fair distribution of environmental benefits and costs both geographically and across human generations; and (3) an enlarged view of development that extends beyond simple measures of growth to include quantitative improvements in daily life. This digest reviews environmental sustainability education. (CCM)

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Early in the final decade of the 20th century, the largest group of world leaders ever to assemble defined what may be education's greatest challenge and responsibility: to help citizens of the world prepare for a future of sustainable development (Sitarz, 1993). Sustainable development has been defined over the years in a variety of ways, but Jacobs (1993) has suggested that all definitions have a core meaning characterized by three elements: (a) consideration of environmental issues and objectives interdependently with economic issues and objectives; (b) a commitment to social equity and the fair distribution of environmental benefits and costs, both geographically and across human generations; and (c) an enlarged view of "development" that extends beyond simple measures of "growth" to include qualitative improvements in daily life.

The educational challenges for sustainable societies are great for several reasons: (a) the global sustainability challenge is unprecedented in both magnitude and complexity, (b) there is no history of societies willingly and deliberately taking steps to institutionalize restraints and change individual and collective behaviors to achieve greater sustainability, and (c) a constructive educational response must include a comprehensive, coordinated attempt to redefine the human role in nature and reexamine many assumptions, values, and actions we have long taken for granted (Orr, 1992). We must "prepare each student to lead a sustainable lifestyle" and "place ecosystems concepts at the intellectual center of all disciplines." (Disinger, 1993).

In the United States, the President has responded to the challenge by creating the President's Council on Sustainable Development. (online at http://www.whitehouse.gov/PCSD/) The Council, in turn, convened a National Forum on Partnerships Supporting Education about the Environment, and produced a report, *Education for sustainability: An agenda for action* (1996) (available online at http://www.gcrio.org/edu/pcsd/toc.html). In outlining an array of strategic actions and initiatives promoting education for sustainability, the report focuses on six themes:

1. Lifelong learning within both formal and nonformal educational settings.
2. Interdisciplinary approaches that provide themes to integrate content and issues across disciplines and curricula.
3. Systems thinking as a context for developing skills in problem solving, conflict resolution, consensus building, information management, interpersonal expression, and critical and creative thinking.
4. Partnerships between educational institutions and the broader community.
5. Multicultural perspectives of sustainability and approaches to problem solving.
6. Empowerment of individuals and groups for responsible action as citizens and communities.

These themes reflect an acknowledgment that education about the environment and sustainability is interdisciplinary in nature, must allow for multiple perspectives, depends on collaboration across agencies and groups, and presumes a lifelong path of learning that extends through all levels of formal education into a variety of nonformal settings. The task, simply put, is to transform prevailing mindsets to recognize the long-term limits that nature imposes and the need to "nurture, rather than jeopardize, the ecological systems" that support our activities (Smith, 1992, p. 90).

What is to be learned?

Just as there is a wide range of definitions for sustainable development, there is great diversity in the characterizations of education for sustainability. One starting place in considering the content of education for sustainability is to examine the relationship with environmental education. The North American Association for Environmental Education (NAAEE) has developed a set of guidelines for environmental education, *Excellence in Environmental Education – Guidelines for Learning (K-12)* (1998). The *Guidelines* provide a conceptual framework for environmental education, and they are organized around themes that are well aligned with the ideas shaping education for sustainability. Indeed, some have suggested that education for sustainability has become the new focus and justification for environmental education (Tilbury, 1995; 1997).

The organizing themes for the NAAEE guidelines are as follows:

- Questioning and analysis skills.
- Knowledge of environmental processes and systems.
- Skills for understanding and addressing environmental issues.
- Personal and civic responsibility.

These themes clearly complement the six themes of *Education for Sustainability*, and they reflect a connectedness among natural systems, human actions, and the need for individuals and groups to analyze issues, make decisions, and take actions that support sustainable ecosystems. It is also clear from these two sets of themes that teaching for sustainability cannot be relegated to a single course or subject area; the themes of education for sustainability must come to permeate all subject areas at all educational levels (Munson, 1997).

Neal (1995) has suggested a four-component framework for teaching about sustainable development: (a) people, (b) environment, (c) economics, and (d) technology. The component focusing on people would consider such matters as human populations, health care, literacy, equity, and urbanization. The environment component would foster awareness of issues related to water supplies, waste disposal, energy use and pollution, farming practices, and habitat preservation. Matters related to trade, expenditures on defense, wasteful consumption, poverty, and access to resources would be considered in the economics component, and the technology

component would focus on control of emissions, fossil fuels, transportation, and industrial processes.

Rather than prescribe the content for sustainability education, Tilbury (1995) has suggested combining approaches that build on past practices but lead to an outcomes-oriented futures perspective. She characterizes traditional environmental education as being "about" the environment; students gain awareness, knowledge, and understanding of human-environment interactions, usually within the context of a science, social studies, or geography class. Another common approach is education "in" the environment where experiential learning fosters both awareness and concern for the environment. To these components, Tilbury would add education "for" the environment that would promote "a sense of *responsibility* and *active* pupil participation" in resolving environmental problems" (p. 207).

As Sitarz (1998) has suggested, education for sustainability is not a new course of study or new content, but rather "it involves an understanding of how each subject relates to environmental, economic, and social issues (p. 202). Developing the content of this new educational dimension will require "educators at all levels...[to] reach beyond school walls to involve parents, industry, communities, and government in the educational process" (p. 200).

One way to begin the process is to create environmentally safe and healthy school buildings and grounds where daily routines and facilities reflect attention to environmentally sound practices. The *Blueprint for a Green School* (Chase, 1995) is a comprehenisve guidebook that provides backgound informaton, activities, and resources for creating environentally sound learning environments.

Challenge to Communities

Though sustainable development is a national and international issue, it becomes locally defined through actions and decisions within cities, neighborhoods, and communities. It is clear from the nature and magnitude of the challenge that providing education for sustainability will require communities to view schools as components within the educational system, not the sole agents responsible for education. Indeed, education for sustainability will not be sustained unless communities embrace the concept and systematically build sustainable patterns of living where the local economy, policies, services, resource consumption, and land-use regulations meet the needs of residents while preserving the environment's ability to support the desired standards of living into the future. Roseland (1998) has developed a practical handbook for communities ready to take the challenge, and the Izaak Walton League of America has produced several community-oriented workshop guides on sustainability, including, *Monitoring Community Sustainability* (1998). This and other curriculum materials associated with the League's *Sustainability Education Project* are described online [see http://www.iwla.org/sep/]. One possible community education strategy would be to involve school students in the collection and reporting of data related to environmental indicators. *Community Sustainability*, a mini-curriculum produced by the Izaak Walton League for grades 9-12 (Hren & Hren, 1996), includes guidelines for conducting a community sustainability monitoring project.

Another curriculum guide produced by Zero Population Growth (Wasserman, 1996) for middle-school students includes activities that lead to development of a "Quality of Life Index." Developing an Index with ten community indicators is one of the culminating activities after students have examined general principles relating to populaton dynamics, use of natural resources, and global issues.

The supplementary curriculum materials described here represent modest moves towards engaging students in local actions that promote community sustainabiliy. The long-term goals of education for sustainability will be realized, however, only when communities build on these efforts and involve schools in comprehensive plans to create sustainable communities. More resources supporting such efforts are available through the following World Wide Web sites:

- Second Nature: Education for Sustainability
  http://www.2nature.org
- President's Council on Sustainable Development
  http://www.whitehouse.gov/PCSD/
- Sustainable Earth Electronic Library
  http://www.enviroweb.org/publications/index.html

References

Chase, J. (1995). *Blueprint for a green school*. New York: Scholastic.

Disinger, J. (1993). *Education*. In Rebecca Stutsman, (Ed.), *From Rio to the capitols: State strategies for sustainable development*. Louisville, KY: Commonwealth of Kentucky.

Hren, B.J., & Hren, D.M. (1996). *Community sustainability*. Gaithersburg, MD: Izaak Walton League.

Jacobs, M. (1993). *The green economy: Environment, sustainable development, and the politics of the future*. Vancouver: University of British Columbia Press.

Munson, K. G. (1997). Barriers to ecology and sustainability education in the U.S. public schools. *Contemporary Education, 18*(3), 174-76. [EJ 553 049]

Neal, P. (1995, Autumn). Teaching sustainable development. *Environmental Education, 50*, 8-9. [EJ 546 445]

North American Association for Environmental Education. (1998). *Excellence in Environmental Education – Guidelines for Learning (K-12)*. Washington, DC: Author.

Orr, David W. (1992). *Ecological literacy: Education and the transition to a postmodern world*. Albany, NY: State University of New York Press. [ED 377 036]

President's Council on Sustainable Development. (1996). *Education for sustainability: An agenda for action*. Washington, DC: U.S. Government Printing Office. [ED 403 158]

Roseland, Mark. (1998). *Toward sustainable communities: Resources for citizens and their governments*. Stony Creek, CT: New Society Publishers.

Sitarz, D. (Ed.). (1993). *Agenda 21: The Earth Summit strategy to save our planet*. Boulder, CO: EarthPress.

Smith, G. A. (1992). Education and the environment: Learning to live with limits. Albany, NY: SUNY Press. [ED 356 554]

Tilbury, D. (1995). Environmental education for sustainability: Defining the new focus of environmental education in the 1990's. *Environmental Education Research, 1*(2), 195-212. [EJ 509 039]

Tilbury, D. (1997). Environmental education for sustainability in Europe: Philosophy into practice. *Environmental Education and Information, 16*(2), 123-140. [549 703]

Wasserman, P. (Ed.). (1996). *People and the Planet: Lessons for a sustainable future*. Washington, DC: Zero Population Growth.

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